

Descriptions of several New Species of North American Fishes. By C. A. Le Sueur. Read March 3, 1818.

THE FIRST ORDER OF FISHES, OR CHONDROPTERIGIOUS. CUVIER.

Branchiæ fixed.

Second family, or the *Selaciens*—PLAGIOSTOMES. DUMÉRIL.

Near Marblehead, in Massachusetts, the fishermen take a kind of shark which they call Nurse or Sleeper, doubtless from its inactive or sluggish habits. It is considered as rare on their coast. From a skin recently prepared by them, I have been enabled to make the following observations.

This individual, I think, belongs to a new subgenus, allied to the genus *Aiguillats* (Spinax, Cuv.) which I shall call *SOMNIOSUS*, or the Sleepers. Like *Spinax* they have spiracles, no anal fins, five small branchial apertures, approximating, and near the pectorals, but they differ in having a short obtuse snout. Pectoral, ventral and dorsal fins very small; dorsals without spines, caudal as in *Aiguillats*.

SOMNIOSUS brevipinna. Lateral line black, undulating at the head, and marked in its whole length with small transverse lines; tail wide, emarginate; the first dorsal midway between the pectoral and anal fins, the second a little further than the ventral, and both very near the tail.

222



C. A. Lesueur del. et lith.

• SQUALUS BREVIPINNA



Body elongated, with a slight elevation, and narrow at the tail; *spiracles* distant from the eyes, and more elevated; *eyes* small, round, and situated laterally; the *pectoral* fins, which were larger than the others, except the caudal, were four inches at the base, and at most five inches in length. This individual, from the end of the snout to that of the tail, was six feet five inches long; and we may regard it as a shark with very small fins, whence its motion must be slow, and confined to the bottom, there sluggishly seeking its prey.

Skin rough, beset with triangular, curved, striated and pointed asperities.

Colour of the entire body a pale lead gray, somewhat darker on the back.

SQUALUS, or SHARK.

Spiracles none. With *anal* fins.

SQUALUS obscurus. Dusky Shark.

Plate IX.

Tail with a carina undulated above, and slightly emarginated at the base; *pectorals* long, narrow, and fal-ciform; *dorsals* and *anals* projecting backwards in a point; second *dorsal* opposite to the anal, the latter bilobed. A white spot on each side of the neck.

Head flat and broad; *snout* sharp-edged, rounded and wide at the end; *eyes* lateral, large, orbicular, pupil transverse, narrow, with a nictitant membrane originating below; *branchial* apertures five, unequal, the first very large, the last very small, and situate above the origin of the pectoral fins; *nostrils* oblique, and partially covered by a short, pointed appendage on the margin, near the end of

the snout; *tail* rounded, strong, with a falciform fin, terminating in a distinct, triangular, lanceolate lobe; lower lobe of the fin short and rounded; *ventrals* small sub-quadrangular, without posterior process; *teeth* triangular, serrate.

REFERENCE TO THE PLATE.

Fig. 2. the tail viewed from above. Fig. 3. one of the lower teeth; *a.* the denticulations magnified. Fig. 4. one of the upper teeth. Fig. 5. an eye, with its nictitant membrane.

SQUALUS littoralis. Ash-coloured Shark.

Tail with an undulated carina, slightly notched at the base upwards; *pectoral*, *ventral*, *dorsal* and *anal* fins large, not prolonged backwards, the second dorsal more forward than the anal; *snout* acute; *teeth* narrow, pointed and undulated.

Body short, thick, wider towards the abdomen; *head* flat, dilated between the eyes, and terminating in a pointed snout, rounded at the end; *nostril lobes* very short, apertures pretty wide, and laterally placed at the extremity of the snout; *eyes* very small, orbicular, brilliant, iris silvery: these are somewhat above the sides of the snout; *branchial* apertures five, very large, especially the first, the last much smaller, embracing the base of the pectoral fin; *dorsal* sub-quadrangular; the *pectorals* are soft; *tail* rounded, tapering to a point, and furnished with a falciform fin, terminated by a distinct triangular lobe. The opening of the jaws resembles the letter U; *teeth* long, and in three or four rows, without dentelures.

Colour a reddish ash gray; abdomen white.

Newyork market. Length three feet.

I owe the knowledge of this species to Dr. Mitchill of Newyork.



DUNÉRIE - SHARK

C. de la Harpe Del. inca & impo

The first part of the history is devoted to a description of the country and its inhabitants. The author then proceeds to a detailed account of the various events which have taken place in the country since the first settlement. The history is written in a clear and concise style, and is well illustrated with numerous anecdotes and incidents. The author's narrative is supported by a large number of references to the original sources, and is accompanied by a series of maps and illustrations which are of great value to the reader. The history is a valuable work, and is well worth a perusal by all who are interested in the history of the country.

The second part of the history is devoted to a description of the various events which have taken place in the country since the first settlement. The author then proceeds to a detailed account of the various events which have taken place in the country since the first settlement. The history is written in a clear and concise style, and is well illustrated with numerous anecdotes and incidents. The author's narrative is supported by a large number of references to the original sources, and is accompanied by a series of maps and illustrations which are of great value to the reader. The history is a valuable work, and is well worth a perusal by all who are interested in the history of the country.

The third part of the history is devoted to a description of the various events which have taken place in the country since the first settlement. The author then proceeds to a detailed account of the various events which have taken place in the country since the first settlement. The history is written in a clear and concise style, and is well illustrated with numerous anecdotes and incidents. The author's narrative is supported by a large number of references to the original sources, and is accompanied by a series of maps and illustrations which are of great value to the reader. The history is a valuable work, and is well worth a perusal by all who are interested in the history of the country.

The fourth part of the history is devoted to a description of the various events which have taken place in the country since the first settlement. The author then proceeds to a detailed account of the various events which have taken place in the country since the first settlement. The history is written in a clear and concise style, and is well illustrated with numerous anecdotes and incidents. The author's narrative is supported by a large number of references to the original sources, and is accompanied by a series of maps and illustrations which are of great value to the reader. The history is a valuable work, and is well worth a perusal by all who are interested in the history of the country.

The fifth part of the history is devoted to a description of the various events which have taken place in the country since the first settlement. The author then proceeds to a detailed account of the various events which have taken place in the country since the first settlement. The history is written in a clear and concise style, and is well illustrated with numerous anecdotes and incidents. The author's narrative is supported by a large number of references to the original sources, and is accompanied by a series of maps and illustrations which are of great value to the reader. The history is a valuable work, and is well worth a perusal by all who are interested in the history of the country.

SQUATINA. (*Angels*, Dumeril.)

Gen. char. Spiracles. No anal fin. *Mouth* cloven at the end of the snout; *eyes* on the dorsal face, not lateral. *Head* round; *pectorals* large, inclining forward, and only separated from the neck by a chink, which contains the branchial apertures; the two dorsal behind the ventral fins, and the caudal placed equally above and below the column. Cuvier, Règne Animal.

SQUATINA Dumeril.

Plate X.

Head bordered on each side by a white membrane; *abdomen*, *throat*, *pectoral* and *anal* fins marked by large red spots; *nostrils* with a broad ciliated skin on each side, as in the Barbel.

Body flattened, broad, and elevated towards the pectorals; *tail* attenuated and sharp-edged; *head* wider than long, obtuse, emarginated in front between the nostrils, depressed above and between the eyes; *neck* rather tumid and distinct; *eyes* small, yellowish green, pupil black, spherical, orbit elevated and furnished with blunt tubercles—similar ones occur above the nostrils, between the spiracles; the *checks* are flat, furnished with small mucous pores, very distinct between the spiracles; *nostrils* on the anterior edge, above the jaws, and between the eyes, aperture vertical and covered by a broad membrane; *spiracles* behind the eyes, wide, transverse; *jaw* protracted, opening; *teeth* lanceolate, rather gibbose in front; these are in six or seven distinct rows, having each five teeth; *branchial* openings very near each other in front of the pectorals; *tongue* triangular, flat, not distinct, terminated by a small fleshy, rounded appendage; *pectorals*

subtriangular, lengthened to a point before, thick at base, flexible at their posterior margin, and distinguished from the body by a slight round notch: the outer margin has curved sharp points; *abdominal* fins lanceolate, straight, narrow, bordering the body, and ending in an appendage, called by Bloch hands, in the males: a notch distinguishes the appendage from the fin. The two *dorsals* subtriangular, between the ventral fins and end of the tail; *caudal* elevated, notched, lobes pointed, the lower one longest.

Colour of the head, back, fins and tail a bluish ash gray, with reddish tints upon the head and margin of the fins; *abdomen* white; but there is a remarkable reddish spot on the throat, another on the abdomen, and another behind the vent, extending to the end of the tail. The pectorals and ventrals are in like manner bordered with large and irregular bands of the same colour.

My observations on this species are derived from three individuals, perfectly alike; and the drawing was made from one which Mr. Titian Peale kindly put into my hands for examination, before preparing it for the museum. Another was presented to the Academy of Natural Sciences by Mr. Lownes, a member; and the third exists in a private collection. The general length is from three to four feet.

This fish wholly differs from the European species, of which I made a drawing, from a fresh specimen, in 1813, at Rouen; it was also a male.

I have dedicated this fine species to M. Dumeril, in testimony of my remembrance and esteem.

**SECOND ORDER OF FISHES, STURIONIENS, OR
CHONDROPTERIGIENS.**

With free *Branchiæ*.

These have gills much cloven, an operculum, but no rays to the membrane.

The second genus of this order, with free branchiæ*, contains but one species, the *Polyodon feuil*, *Squalus spathula*, of Lacepède, tom. i. p. 403. pl. xii. fig. 3. which was from the Mississippi. An individual from the river Ohio, was presented, by Mr. Hazard, to the Academy, and this, in the form of its body, fins and snout, is closely allied to the foliated Polyodon, but differs in the total absence of teeth. A circumstance so remarkable authorizes us to consider the present individual a new species, and perhaps the type of a new subgenus near Polyodon. Both species, however, so much alike in body, fins and snout, might well be united under the name *Spatularia*, Schn. if we reject the teeth from those characters attached to the genus by Cuvier and Lacepède. In other respects they resemble each other. The two then would be specifically distinguished, one with teeth, the other without teeth. Or, should the adoption of a new genus be preferred, I would propose the following characters.

Genus **PLATIROSTRA.**

Gen. char. *Jaw, tongue and throat* destitute of teeth. *Snout* flattened, elongated and spathuliform. *Fins and body* closely resembling those of the Sturgeon, but without plates. The tail only is covered on each side by small bony plates, as in that genus.

* Cuvier, Regne Animal.

PLATIROSTRA edentula. *Snout* not so long as one third of the body, dilated and rounded at the end.

Body nearly round, pointed at the tail; *skin* rather smooth than rough, covered with small irregular osselets, which are more abundant on the head. The *head* and *snout* covered with long osseous plates, which are radiated, and interlocked at their extremities: these are in pairs, two on the head, and about six other pairs along the snout. Between the extremities are other smaller plates so as to fill the vacancy. The orbiculars are strong, forming the base of the snout, and extend to about half its length. Both its sides are occupied with small stelli-form discs, the rays of which cross each other and present the appearance of an osseous reticulation, supporting the membranous skin of the snout.

Eyes small, oblong, above the articulation of the upper jaw; *nostrils* small, double, one above the other, in front of the eyes, but a little more elevated.

Jaws equal, without teeth, maxillar and intermaxillar close together, and in length equal. Inferior mandibles simple and narrow; opening of the mouth large; *spiracles*, as in sturgeons, behind the eyes, and in front of the articulation of the analogue of the præoperculum. At the other extremity is an opercular plate, radiating backwards, and below this, the analogue of the sub-operculum and interoperculum, which articulate with each other. A large skin supports all these bones, expanding and attenuating to a point posteriorly almost to the end of the pectoral fin, and covering the wide branchial aperture on each side.

Branchiæ large: the arcs have two rows of long rigid bristles, in close connexion, directed towards the front.

These rows defend a broad membranous expansion, that accompanies the interior contour of each arc, between the bristles, the base of the membranes being furnished with small and very compact cartilaginous laminæ, and behind the arcs is a branchiferous membrane, to support the pectinated structure, with free extremities. The shoulder bones are covered with trifid papillæ, which resemble a small insect.

Fins very like those of the sturgeon, rays bony, articulate and divided, the first usually strong, at the upper part of the tail they are very strong. The inferior rays have a long articulation.

Tail large, notched, with pointed lobes.

The *lateral line* commences on the head, branches towards the eyes, towards the sides in front of the præoperculum, across the neck, extends on each side of the back, beginning to decline a little in front of the dorsal fin, and terminates at the tail. In its whole length are to be seen minute ramifications, straight and curved more or less distant from each other.

Colour. This cannot be strictly given from a dried specimen, but on a comparison with several dried sturgeons, the present species seems to be of an olive red.

Length from the end of the snout to that of the tail three feet ten inches. Snout from its extremity to the eyes twelve inches long, and three inches wide.

P. 26.—D. 58.—V. 40 a 50.—A. 56.—C. $\frac{15 \text{ sup.}}{84 \text{ infer.}}$

The above description was made from two individuals taken in the Ohio, one in the cabinet of the Academy of Natural Sciences, presented by Mr. Samuel Hazard, a member, the other in Peale's museum, bearing this in-